

The application of Quality Control Circle concept in reducing adverse events of bathroom falls

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Abstract

Objective: To explore the application of QCC concept in reducing bathroom falls. **Methods:** To set up quality control circle organizations and establish the research topic on reducing the occurrence toilet falls; To collate information about toilet falls in nursing units from January to June in 2013; To conduct status survey, analyze the reasons, set goals, prepare and implement measures; to carry out evaluation of improvements 3 months. **Results:** Incidence of bathroom falls decreased significantly and patient satisfaction increased. **Conclusion:** the application of quality control circle concept has positive significance in reducing the incidence of bathroom falls and protecting patients' safety.

Key words

Quality Control Circle; Falls

Dr. Shi Chuanxin recommended to form a site-centered circle on the basis of quality management thinking from Dr. Daiming and Qiu Lanbo, two quality management masters, making this site the core of quality management, arousing enthusiasm, identifying problems and enhancing quality in 1950^[1]. Our hospital applied QCC concept to the management of reducing bathroom falls since July in 2013, aiming at reducing the incidence of falls, guaranteeing safety and enhancing patient satisfaction. Specific practices and experiences are as followed:

1 Methods

1.1 Set up quality control circle organizations and establish the research topic Organized by nursing department, an experiment aiming at reducing the occurrence of bathroom falls for a period of three months (from July, 2013 to September, 2013) was conducted. Participants are 8 circle members who are selected from frontline backbone nurses, doctors in charge and logistic managers for QCC training. Also, a vice president in charge of nursing and the director of nursing are appointed as circle leader and counselor respectively.

1.2 Collect data and grasp the current situation Based on data collection on 11 fall events in nursing units from January 2013 to June 2013, including patient gender, age, state of consciousness, department, working years of responsible person and the site of the incident, we found that patients were all conscious when they fell. There is no central tendency among departments. The patients' average age is 65.15 and 8 cases (4 male, 4 female) occurred in bathrooms making up 72.73%. Thus, it can be concluded that the problem of bathroom falls must be solved first in

order to resolve all fall issues. Therefore, the theme of the research is “reduce the incidence of adverse events” according to Pareto principle.

1.3 Organize discussion to identify relevant factors Discussions of the causes of the incidents from the following four aspects: personnel, environment and materials, methods and management were hosted by the circle leader. Members are encouraged to express their views freely through brainstorming^[2] to find out as many reasons as possible, which are then classified through comprehensive evaluation method. Finally, the priority matrix evaluation method^[2] is employed to determine the event's theme by selecting the most important issues among all the major ones: bathroom objects and the environment not meeting the security requirements; no guarantee mechanism for multi-sectoral coordination; the patients' own factors and inadequate nursing management.

1.4 Develop improvement measures through joint participation The above issues are valued in the order of 4,3,2,1 according to circle ability, urgency and feasibility. The correct order is: not meeting the security requirements for bathroom objects and the environment (42.14%), inadequate nursing management (24.46%), no guarantee mechanism for multi-sectoral coordination (13.78%), the patients' own factors (19.66%). The first three issues are solved firstly due to the little possibility in dealing with patients' own factors.

1.5 Elaborate on a plan (within 20 days)

1.5.1 As for the failure of bathroom objects and environment in meeting the security requirements, our proposed measures are as follows: pave anti-skid pads in the bathroom aisle; change squat toilet into toilet seats; put up warning signs; increase the number of handrails.

1.5.2 As for the problem of inadequate nursing management, our proposed measures are as follows: organize trainings on the patients' security management in order to improve risk awareness and enhance sense of responsibility; person to person guidance on the three thirty-seconds about safe ambulation and standing to patients with prolonged bed rest, hypertension, hypoglycemic drug use and cerebral inefficiency; provide bedside toilet; increase the equipment of bedside privacy protection; encourage family members' full escort to high risk patients; refine bathroom missionary processes and contents.

1.5.3 Our proposed measures to improve the guarantee mechanism for multi-sectoral coordination are as follows: collect the information about toilet falls including reasons, settlements, existing hazards etc; organize post-discussion corrective measures; ask the circle member (logisticians) to develop a realistic budget according to the discussion results; compile the above materials and submit for discussion and approve.

1.6 Guarantee the effective safeguards implementation through hospital leaders' participation and nursing department's tracking within a period of three months (October to December, 2013).

1.7 Satisfaction survey Nursing officers hand out 300 satisfaction questionnaires to inpatients at each quarter of the year. The questionnaires will be collected on the scene. There are 1200 questionnaires around the year. The full mark for each is 100 points and results under 80 points will be considered dissatisfied. Statistical analysis of patients' satisfaction before and after the activity is conducted.

2 Results

There are 12 cases of toilet falls in 2013, 8 before and 4 after the activity. After the implementation of quality control circle concept, there is a significant drop in both the number and the rate of the adverse events of bathroom falls. (see table 1) At the same time the patients' satisfaction increases than before. (see table 2)

Table 1 Comparison of bathroom falls before and after the activity

Phase	Cases of falls (case)	Inpatient bed days in the same period	incidence (%)	ratio (%)
Before the activity (1~6 months)	8	143250	0.0558	66.67
After the activity (7~12 months)	4	155314	0.0259	33.33

Note: incidence=cases of falls/ inpatient bed days in the same period

Table 2 Comparison of satisfaction before and after the activity

phase	Number of valid questionnaire (copy)	Degree of satisfaction (%)	T value	P
Before the activity (1~6 months)	594	90.12	12.25	<0.01
After the activity (7~12 months)	592	95.13		

Notes: degree of satisfaction=number of satisfaction/ total number of valid questionnaire

3 Discussion

Nursing safety is the core of nursing quality as well as hospital management, and ensuring the patients' safety is the responsibility of hospitals. The quality control circle concept focuses on the participation of all staffs and braining storming. Starting from problems, the participants work together to seek reasons, solve practical problems, eliminate hidden dangers and prevent risks in order to achieve the goal of enhancing nursing quality. Before the experiment, more patients fell in bathrooms according to the adverse incidents summarized and reported by nursing department. In order to solve this problem, a quality management committee was set up and a conclusion was drawn from the discussion that factors from different aspects should be taken into consideration, such as personnel, surroundings, possessions, management and other. At the same time, a quality control circle aiming at reducing the rate of the adverse incidents of bathroom falls was established. Circle members conducted heated discussion according to the rules and procedures of quality control circle. Gradually, solutions were worked out and implemented effectively. As a result, there is a significant decrease in toilet falls and an increase in patients' satisfaction, indicating the obvious effectiveness of this experiment.

The application of QCC Concept enhances people's ability in solving problems. Teams with separate tasks are formed in order to hold a detailed discussion on the same question. Through the debate, we have a deeper understanding of the reason why patients fall in toilets, which changes the tradition mode of deciding everything by one man's say. Circle members, ranging from management, first line staff to support staff, treat the problem from different insights and angles, thus ensuring the specific solutions.

The idea of QCC concept is to solve problem and enhance quality. The hospital's purpose is to protect patients' security and increase quality of medical care. Therefore, there is something in common between the two. Circle members' analysis, usage of tool, problem finding and plan making can provide reference for hospital decisions. On one hand, there is an increase of staff's sense of value. Changing from accepting orders to working out solutions by themselves, the staff's enthusiasm is greatly increased, resulting in less complaints and a gradual release of positive energy. There is also a reinforcement of communicating abilities between supporting departments and clinical departments. Supporting departments have set right their responsibilities and find problems in time through initiative patrolling. At the same time, hospital leaders adopt advices from the staff, tackle the concerns of clinics and avoid risks in advance. They also change from settling the disputes passively to preventing risks actively, which wins favorable social evaluation and economic benefits.

References

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